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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,284	11/15/2001	Dong Wu	56530US002	9016

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EXAMINER	
SHOSHO, CALLIE E	
ART UNIT	**PAPER NUMBER**
1714	

DATE MAILED: 06/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action Before the Filing of an Appeal Brief	Application No. 10/000,284	Applicant(s) WU ET AL.	
	Examiner Callie E. Shosho	Art Unit 1714	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 25 May 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires _____months from the mailing date of the final rejection.
   b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: 1-35.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: see attachment.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____
13. ☐ Other: _____.

Callie E. Shosho
Primary Examiner
Art Unit: 1714

Attachment to Advisory Action

1. Applicants' arguments filed 5/25/06 have been fully considered but they are not persuasive.

Specifically, applicants argue that there is no motivation to combine Sano et al. (U.S. 2003/0236321), Zhu (U.S. 5,889,083), or Erdtmann et al. (U.S. 6,533,408) with Krepski et al. (U.S. 5,929,160).

Applicants argue that Krepski et al. is not a reasonably pertinent reference given that Krepski et al. is drawn to an entirely different problem than the claimed invention. While the present invention is drawn to ink jet inks, Krepski et al. is directed to a method of reducing water uptake in silyl terminated sulfopoly(ester-urethane).

While it is agreed that Krepski et al. is drawn to method of reducing water uptake in silyl terminated sulfopoly(ester-urethane), it is significant to note that Krepski et al. disclose that the motivation for producing and using such silyl terminated sulfopoly(ester-urethane) is to produce composition with toughness, weatherability, abrasion resistance, and enhanced adhesion which are functions especially pertinent to ink jet ink where it is important that the inks possess good toughness, weatherability, abrasion resistance, and enhanced adhesion in order that the ink adheres to substrate and does not smudge, fade, crack, etc.

Applicants also argue that there is no express teaching in Krepski et al. that the polymers are suitable for use in ink jet ink. It is agreed that there is no explicit disclosure in Krepski et al. to utilize the silyl terminated sulfopoly(ester-urethane) in ink jet ink. However, Krepski et al. do disclose that the silyl terminated sulfopoly(ester-urethane) is used in order to impart toughness, weatherability, abrasion resistance, and enhanced adhesion to coatings on paper (col.4, lines 66-

67 and col.5, lines 13-16) that are functions especially relevant to ink jet inks which are also utilized on paper. While it is agreed that there is only a brief disclosure in Krepski et al. that the silyl terminated sulfopoly(ester-urethane) is used in composition for coating paper, the fact remains that Krepski et al. do explicitly disclose that the silyl terminated sulfopoly(ester-urethane) is used in other types of coatings in addition to pavement marking paint.

Applicants also argue that there is no motivation to combine Sano et al., Zhu, or Erdtmann et al. with Krepski et al. However, it is noted that each of Sano et al., Zhu, and Erdtmann et al. disclose ink jet ink comprising aqueous medium, pigment, and polymer, i.e. polyurethane, however, there is no disclosure in any of the references of specific polymer, i.e. silyl terminated sulfopoly(ester-urethane), as presently claimed. This is why each of the references is used in combination with Krepski et al. which disclose the use of silyl terminated sulfopoly(ester-urethane) in coatings for paper wherein the coatings of the Krepski et al. contain similar ingredients to those used in ink jet inks, i.e. water, pigment, dispersant, etc. Krepski et al. also disclose motivation for using silyl terminated sulfopoly(ester-urethane), i.e. toughness, weatherability, abrasion resistance, and enhanced adhesion, which are particularly relevant to the presently claimed ink jet ink.

Applicants also argue that there is no reasonable expectation of success that the silyl terminated sulfopoly(ester-urethane) disclosed in Krepski et al. would jet out of ink jet head.

However, Krepski et al. disclose that the silyl-terminated sulfopoly(ester-urethane) has number average molecular weight of less than 50,000 (col.2, lines 42-45) which would overlap the molecular weight of the polymers utilized in each of Sano et al., Zhu, and Erdtmann et al. which disclose the use of polymer having molecular weight of 3,000-100,000 (Sano et al. –

paragraph 62), approximately 5,000-30,000 (Erdtmann et al. – Table 1), and 1,500-50,000 (Zhu – col.4, lines 62-47). Additionally, it is noted that Krepski et al. disclose the use of silyl-terminated sulfopoly(ester-urethane) in polymer solution having viscosity of 1-50,000 cP (col.10, lines 47-48), the lower end of which would clearly meet the viscosity requirement of ink jet inks (see page 9, lines 12-15 of the present specification). Further, example 37 of Krepski et al. disclose the use of silyl-terminated sulfopoly(ester-urethane) having particle size of 93 nm which particle size would clearly be suitable for use in ink jet inks. Evidence to support this position is found in Table 1 of Erdtmann et al. which discloses ink jet ink comprising polymer having particle size of about 8-300 nm and col.4, lines 55-61 of Zhu which discloses that the polymer must have particle size less than 1μm which is the size of printer capillary tube.

Thus, Krepski et al. not only disclose the use of silyl-terminated sulfopoly(ester-urethane) in coatings for paper but that the silyl-terminated sulfopoly(ester-urethane) also meets rheological, i.e. molecular weight and viscosity, and physical, i.e. particle size, requirements necessary for ink jet inks and thus, it is the examiner's position that one of ordinary skill in the art would have a reasonable expectation that the silyl-terminated sulfopoly(ester-urethane) would jet out of ink jet head.

Given that Krepski et al. disclose the use of silyl-terminated sulfopoly(ester-urethane) in order to impart toughness, weatherability, abrasion resistance, and enhanced adhesion to coatings on paper which are functions especially important to ink jet inks which are also utilized on paper, given that the composition of Krepski et al. utilizes similar ingredients as ink jet inks, i.e. water, pigment, dispersant, etc., and given that Krepski et al. disclose the use of silyl-terminated sulfopoly(ester-urethane) which would appear to meet the rheological and physical requirements

necessary in ink jet inks, it is the examiner's position that it would have been obvious to one of ordinary skill in the art to combine Sano et al., Erdtmann et al., or Zhu with Krepski et al., and thereby arrive at the claimed invention.

Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
6/7/06